ENVIRONMENTAL DOCUMENTATION

18/4/2004

AGENDA

- Introduction
- Stewardship
- Analysis & Assessment
- Documentation Process
- Application
- Coordination
- Policy & Guidance
- Summary

INTRODUCTION

National Historic Preservation Act - 1966

NEPA of 1969

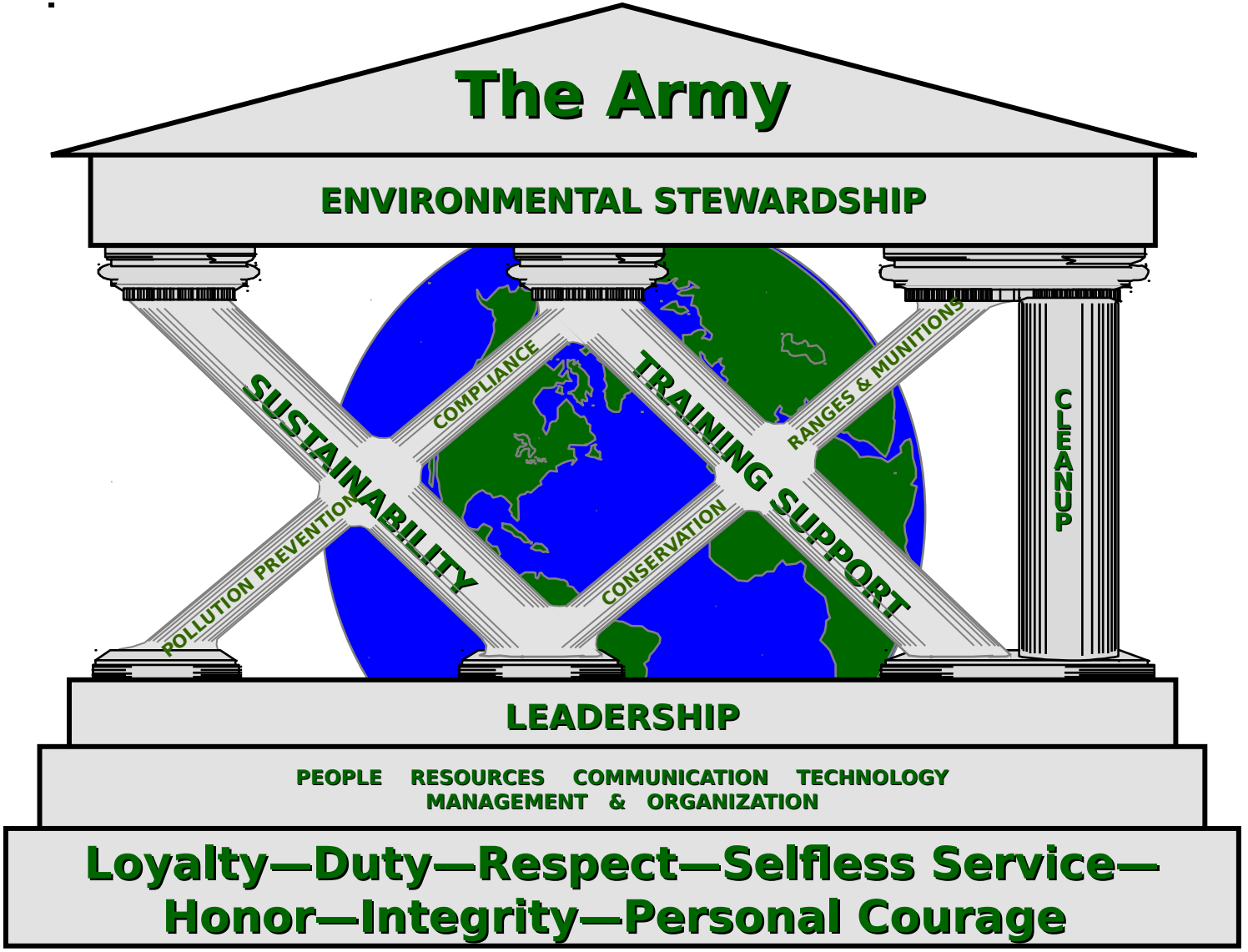
Clean Air Act – 1970

Clean Water Act – 1972

Safe Drinking Water Act - 1986

ENVIRONMENTAL STEWARDSHIP

(Before Sustainability)



Source: US Army Environmental Center, 2004

Does NEPA Apply?

1. The proposal is already covered by a previous NEPA Document. No additional paperwork required.

2. The proposal is categorically excluded (CX), meaning that no NEPA document is required other than a Record of Environmental Consideration (REC).

3. The proposal requires an Environmental Assessment (EA) to provide evidence that there would/will be no significant impacts from the action/undertaking/project. In this circumstance, the action/undertaking/project would qualify for a Finding of No Significant Impact (FoNSI).

4. The proposal has significant cumulative impacts and an Environmental Impact Statement (EIS) is required. Consequently, the project will require advertisement of the Notice of Intent (NOI), public scoping, and a legal decision recorded in a Record of Decision (ROD).

ANALYSIS & ASSESSMENT OVERVIEW

- Environmental Inventory
- Analysis of Impacts (of actions, undertakings & projects)

✓ Earth Resources

✓ Hazards/Public Safety

✓ Water Quality

✓ Air Quality

✓Circulation

✓ Public Facilities

✓ Flood

✓ Energy

✓ Biota (Flora, Fauna & Biological)

✓ Visual/Aesthetic

✓ Noise

✓ Natural Resources

✓ Cultural Resources

Principles of Cumulative Effects Analysis

1. **Cumulative effects are caused by the aggregate of past, present, and reasonably foreseeable future actions.** The effects of a proposed action on a given resource, ecosystem, and human community include the present and future effects added to the effects that have taken place in the past. Such cumulative effects must also be added to effects (past, present, and future) caused by all other actions that affect the same resource.

2. **Cumulative effects are the total effect, including both direct and indirect effects, on a given resource, ecosystem, and human community of all actions taken, no matter who (federal, nonfederal, or private) has taken the actions.** Individual effects from disparate activities may add up or interact to cause additional effects not apparent when looking at the individual effects one at a time. The additional effects contributed by actions unrelated to the proposed action must be included in the analysis of cumulative effects.

3. **Cumulative effects need to be analyzed in terms of the specific resources, ecosystem, and human community being affected.** Environmental effects are often evaluated from the perspective of the proposed action. Analyzing cumulative effects requires focusing on the resources, ecosystem, and human community that may be affected and developing an adequate understanding of how the resources are susceptible to effects.

4. **It is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful.** For cumulative effects analysis to help the decision maker and inform interested parties, it must be limited through scooping to effects that can be evaluated meaningfully. The boundaries for evaluating cumulative effects should be expanded to the point at which the resource is no longer affected significantly or the effects are no longer of interest to affected parties.

5. **Cumulative effects on a given resource, ecosystem, and human community are rarely aligned with political or administrative boundaries.** Resources typically are demarcated according to agency responsibilities, county lines, grazing allotments, or other administrative boundaries. Because natural and sociocultural resources are not usually so aligned, each political entity actually manages only a piece of the affected resources or ecosystem. Cumulative effects analysis on natural systems must use natural ecological boundaries and analysis of human communities must use actual sociocultural boundaries to ensure including all effects.

6. **Cumulative effects may result from the accumulation of similar effects or the synergistic interaction of different effects.** Repeated actions may cause effects to build up through simple addition (more and more of the same type of effect), and the same or different actions may produce effects that interact to produce cumulative effects greater than the sum of the effects.

7. **Cumulative effects may last for many years beyond the life of the action that caused the effects.** Some actions cause damage lasting for longer than the life of the action itself (e.g., acid mine drainage, radioactive waste contamination, species extinctions). Cumulative effects analysis needs to apply the best science and forecasting techniques to assess potential catastrophic consequences in the future.

8. **Each affected resource, ecosystem, and human community must be analyzed in terms of its capacity to accommodate additional effects, based on its own time and space parameters.** Analysts tend to think in terms of how the resources, ecosystem, and human community will be modified given the action's development needs. The most effective cumulative effects analysis focuses on what is needed to ensure long-term productivity or sustainability of the resource.

Source: Consideration of Cumulative Effects Under NEPA, CEQ, 1997

Types of Cumulative Effects

	Additives Process	Interactive Process
Single Action	**Type 1** – Repeated "additive" effects from a single proposed project, action, or undertaking. Example: Construction of a new road through a national park, resulting in continual drainage of road salt onto nearby vegetation.	**Type 2** – Stressors from a single source that interact with receiving biota to have an "interactive" (nonlinear) net effect. Example: Organic compounds, including PCBs, that biomagnify up food chains and exert disproportionate toxicity on raptors and large mammals.
Multiple Actions	**Type 3** – Effects arising from multiple sources (projects, point sources, or general effects associated with development) that affect environmental resources additively. Example: Agricultural irrigation, domestic consumption, and industrial cooling activities that all contribute to drawing down a ground water aquifer.	**Type 4** – Effects arising from multiple sources that affect environmental resources in an interactive (i.e., countervailing or synergistic) fashion. Example: Discharge of nutrients and heated water to a river that combine to cause an algal bloom and subsequent loss of dissolved oxygen that is greater than the additive effects of each pollutant.

Source: Consideration of Cumulative Effects Under NEPA, CEQ, 1997

Examples of Cumulative Effects

Type	Main Characteristics	Example
1. Time Crowding	Frequent and repetitive effects on an environmental system	Forest harvesting rate exceeds regrowth
2. Time Lags	Delayed effects	Exposure to carcinogens
3. Space Crowding	High spatial density of effects on an environmental system	Pollution discharge into streams from non-point sources
4. Cross-boundary	Effects occur away from the source	Acid precipitation
5. Fragmentation	Change in landscape pattern	Fragmentation of historic district
6. Compounding Effects	Effects arising from multiple sources or pathways	Synergism among pesticides
7. Indirect Effects	Secondary effects	Commercial development following highway construction
8. Triggers & Thresholds	Fundamental changes in system behavior or structure	Global climate change

Source: Consideration of Cumulative Effects Under NEPA, CEQ, 1997

Federal Examples of Cumulative Effects

Cumulative Effects situations faced by federal agencies including both multiple agency actions & other actions affecting the same resource	
Federal Agency	**Cumulative Effects Situations**
US Army Corps of Engineers	• incremental loss of wetlands under the national permit to dredge and fill and from land subsidence
Bureau of Land Management	• degradation of rangeland from multiple grazing allotments and the invasion of exotic weeds
Department of Defense	• populations declines in nesting birds from multiple training missions and commercial tree harvests within the same land unit
Department of Energy	• increased regional acidic deposition from emissions trading policies and changing climate patterns
Federal Energy Regulatory Commission	• blocking of fish passage by multiple hydropower dams and Corps of Engineers reservoirs in the same river basin
Federal Highway Administration	• cumulative commercial and residential development and highway construction associated with suburban sprawl
Forest Service	• increased soil erosion and stream sedimentation from multiple timber permits and private logging operations in t he same watershed
General Services Administration	• change in neighborhood socio-cultural character resulting from on going local development including new federal office construction
National Park Service	• degraded recreational experience from overcrowding and reduced visibility

Source: Consideration of Cumulative Effects Under NEPA, CEQ, 1997

Cumulative Effects Analysis (CEA) Environmental Impact Assessment (EIA)

Steps in CEA to be addressed in each component of EIA	
EIA Components	**CEA Steps**
Scoping	1. Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals. 2. Establish the geographic scope for the analysis. 3. Establish time frame for the analysis. 4. Identify other actions affecting the resources, ecosystem, and human community of concern.
Describing the Affected Environment	5. Characterize the resources, ecosystems, and human communities identified in scoping in terms of their response to change and capacity to withstand stresses. 6. Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds. 7. Define a baseline condition for the resources, ecosystems, and human communities.
Determining the Environmental Consequences	8. Identify the importance cause-and-effect relationships between human activities and resources, ecosystems, and human communities. 9. Determine the magnitude and significance of cumulative effects. 10. Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects. 11. Monitor the cumulative effects of the selected alternative and adapt management

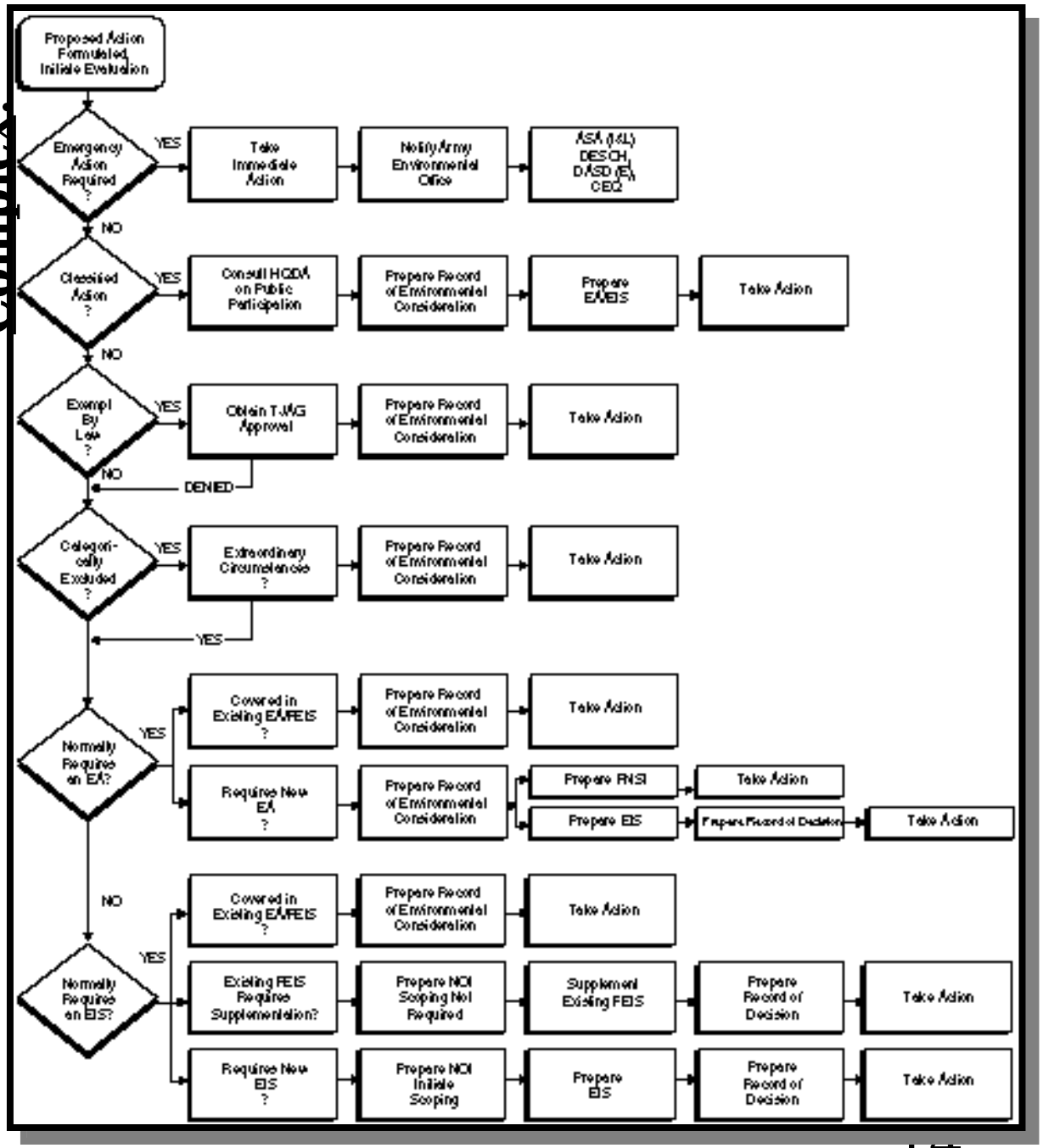
Source: Consideration of Cumulative Effects Under NEPA, CEQ, 1997

NEPA Process

1. Determine the Lead Agency
2. Prepare the environmental assessment (optional)
3. Publish Notice of Intent (NOI)
4. Conduct (public) scoping process
5. Prepare Draft of Proposed & Preferred Alternative(s) (DOPPA) (optional)
6. Prepare Draft EIS
7. Circulate/Advertise Draft EIS (to public)
8. File Draft EIS with EPA
9. Hold public hearing(s), if required or desired
10. Prepare Final EIS
11. Circulate/Advertise Final EIS (to public)
12. File Final EIS with EPA
13. Adopt Final EIS
14. Make Agency decision
15. Prepare Record of Decision
16. Implement plan actions cited in the EIS/ROD

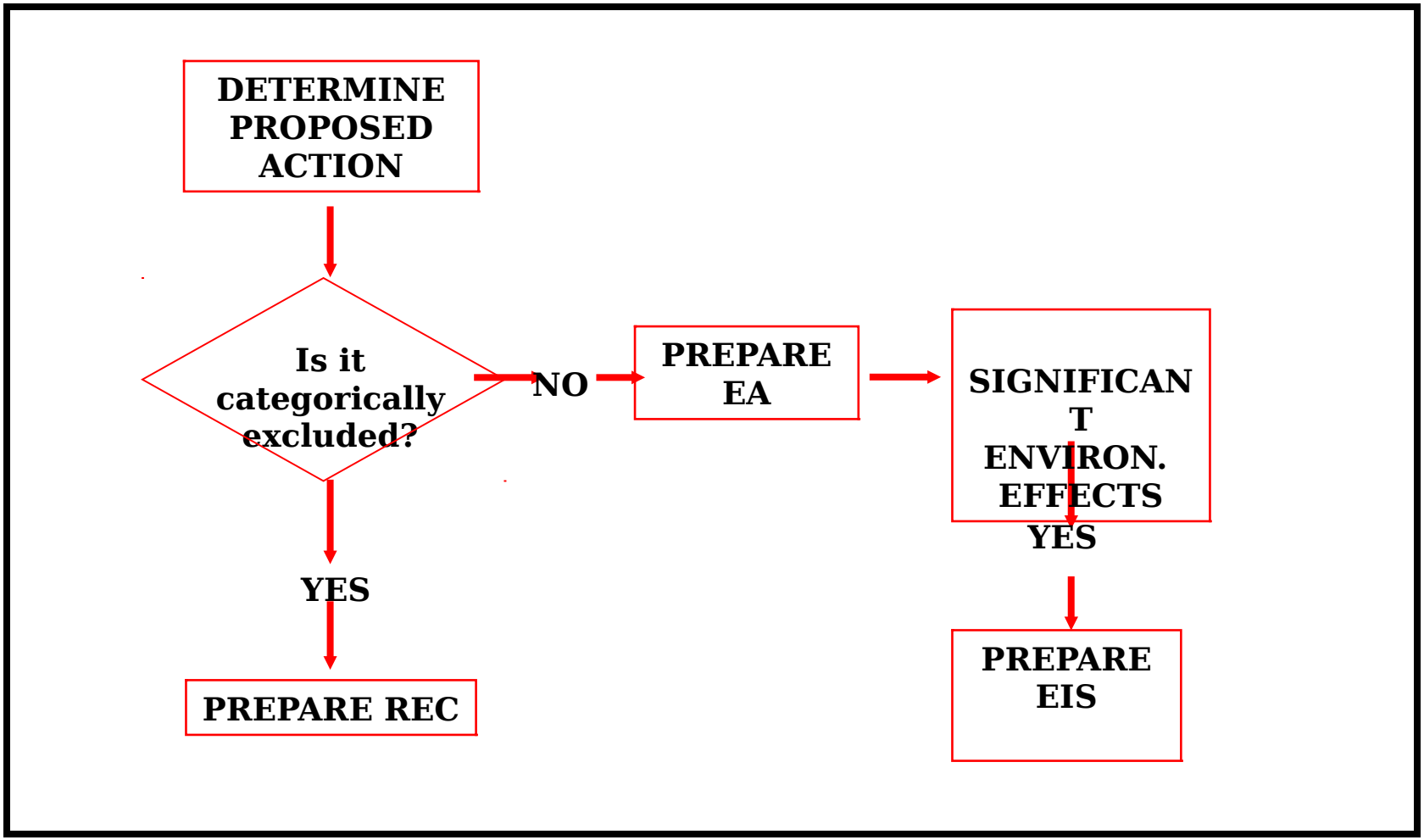
ENVIRONMENTAL DOCUMENTATION PROCESS

Detailed & Complex:



ENVIR. DOC. PROCESS (Cont'd.)

Simplified:



PRODUCTS (DOCUMENTS)

- First Order of Analysis & Documentation
  - Categorical Exclusion (**CX**) => Record of Environmental Consideration (**REC**)
- Second Order of Analysis & Documentation
  - Environmental Assessment (**EA**) => Finding of No Significant Impact (**FoNSI/FNSI**)
- Third Order of Analysis & Documentation
  - Environmental Impact Statement (**EIS**) => Record of Decision (**ROD**)
    - Rendered by a Circuit Court Judge thru legal process

ENVIRONMENTAL DOCUMENTATION

Record of Environmental Consideration (REC)

- Categorical Exclusions (CX)
  - AR 200-2, Environmental Effects of Army Actions
  - Routine repairs and maintenance
  - Screened construction without impacts
  - Utilities and communications using existing Rights of Way

ENVIRONMENTAL DOCUMENTATION (Cont'd.)

Environmental Assessment (EA)

- Determines need for EIS
- Military construction off-post
- Significant land use changes
- Actions affecting:

cultural/historical resources, endangered species, prime or unique farmlands, soil erosion, wetlands, floodplains, wilderness areas, aquifers, water sources, wild and scenic rivers, etc.

ENVIRONMENTAL DOCUMENTATION (Cont'd.)

- **Finding of No Significant Impact (FONSI/FNSI)**
  - No significant impact = no EIS
  - Impacts can be mitigated to reduce or eliminate significant impacts
- **Notice of Intent (NOI)**
  - Probable, significant & cumulative impacts = EIS required
- **Environmental Impact Statement (EIS)**
  - Analysis of proposed actions and alternatives
  - Avoid, minimize, mitigate, monitor
  - Public participation
  - EIS Supplement

EPA MUNITIONS RULE

EPA Munitions rule -

When munitions are being stored and used by the military for their intended purpose, they are not solid waste, therefore are not hazardous waste.

Conversely, when used up, deteriorated, or ready for disposal, they fall under solid waste management law.

DoD RANGE RULE

Five-part site specific process, consistent with CERCLA.

Identify all closed, transferred, and transferring military ranges.

Conduct a range assessment (RA) in which an accelerated response will be implemented. (monitoring, mitigation, etc.)

If these measures are not sufficient, a more detailed site-specific **Range Evaluation** will be conducted.

Recurring reviews will be conducted, and an administrative close-out phase also is included.

Installations/range facility categories:

- **TRANSFERRED** - A Base Realignment and Closure (BRAC) action
- **TRANSFERRING** - Anticipated action, caused by DoD or BRAC
- **CLOSED** - Self explanatory. Permanently, totally given up
- **ACTIVE** - Self-explanatory
- **INACTIVE** - Under military control, but not currently used

BASIC SUSTAINABLE PLANNING PRINCIPLES for RPMP

- Strive to enhance the relationship between the natural & built environment.
- Establish the natural context as the framework for the built environment.
- Endeavor to incorporate human development into the natural context at all scales.
- In all decisions, reconfirm the relationship of nature to the built environment.
- Use the continuous & iterative character of the planning process to emphasize sustainable development.

(Source: AR 210-20, Appendix C)

SUSTAINABILITY TENENTS

- Alt. performance-based management
- Information management & accessibility
- Science/Technology
- Environmental accountability
- Community-driven strategic planning
- Collaborative regional planning
- Building design & rehabilitation
- Ecosystem integrity maintenance
- Natural resources management
- Range modernization, management, operations & trainingSlide 7-22 – Sustainability Planning Principles for RPMP land maintenance

(Source: AR 210-20, Chap 2-7, pg. 35)

FACTORS FOR CONSIDERATION *in developing a Sustainable RPMP*

Considerations for a Sustainable Real Property Master Plan	
Categories	Areas of Consideration
Sustainable Sites	**Erosion, Sedimentation, & Water Quality Control** – Control erosion and pollutants to reduce negative impacts on water and air quality.
	Site Selection – Avoid development of inappropriate sites and reduce the environmental impact from the location of a building on a site. Select site based on functional adjacencies/relationships and land use compatibility.
	Installation/Base Redevelopment – Channel development to installation/base cantonment areas with existing infrastructure, protecting green fields and preserving habitat and natural resources.
	Containment Site Redevelopment – Rehabilitate damaged sites where development is complicated by real or perceived environmental contamination, reducing pressure on undeveloped land.
	Alternative Transportation – Reduce pollution and land development impacts from automobile use.
	Reduced Site Disturbance – Conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity. *(For multiple buildings/installations, opportunities exist to mitigate damaged areas in alternative areas/under other projects.)*

(Source: AR 210-20, Appendix C, 2004)

FACTORS FOR CONSIDERATION *in developing a Sustainable RPMP*

Considerations for a Sustainable Real Property Master Plan	
Categories	Areas of Consideration
Sustainable Sites	**Stormwater Management** - Limit disruption of natural water flows by minimizing storm water runoff, increasing on-site infiltration and reducing contaminants.
	Landscape Design to Reduce Heat Islands - Reduce heat islands (thermal gradient differences between developed and undeveloped areas) to minimize impact on microclimate and human and wildlife habitat. (For multiple buildings/installations, strategies for heat island reduction, for example use of parking garages, might be shared among multiple projects/facilities.)
	Light Pollution Reduction - Eliminate light trespass from the building site, improves night sky access, and reduces development impact on nocturnal environments. (For multiple buildings/installations, lighting has safety and force protection implications and sharing of lighting for walkways, etc, needs to be addressed. In addition, implications for the design of lighting must extend to site/street lighting as well.)
	Optimize Site Features - Optimize utilization of the site's existing natural features and placement of man-made features on the site.

(Source: AR 210-20, Appendix C, 2004)

FACTORS FOR CONSIDERATION
in developing a Sustainable RPMP

Considerations for a Sustainable Real Property Master Plan	
Categories	Areas of Consideration
Sustainable Sites	**Facility Impact** - Minimize negative impacts on the site and on neighboring properties and structures; avoid or mitigate excessive noise, shading on green spaces, additional traffic, obscuring significant views, etc.
	Site Ecology - Identify and mitigate all existing site problems including contamination of soil, water, and air, as well as any negative impacts caused by noise, eyesores, or lack of vegetation, enhancing or creating new site habitat.
Water Efficiency	**Water Efficient Landscaping** - Limit or eliminate the use of potable water for landscape irrigation. (For multiple buildings/installations, strategies for Water Efficient Landscaping and/or opportunities for shared rainwater and storm runoff collection to supply irrigation systems need to be addressed.)
	Innovative Wastewater Technologies - Reduce generation of wastewater and potable water demand, while increasing local aquifer recharge. (For multiple buildings/installations, strategies for Innovative Wastewater Technologies such as shared grey water systems and on-site sewage treatment systems need to be addressed.)
	Water Use Reduction - Maximize water efficiency within buildings to

(Source: AR 210-20, Appendix C, 2004)

FACTORS FOR CONSIDERATION *in developing a Sustainable RPMP*

Considerations for a Sustainable Real Property Master Plan	
Categories	**Areas of Consideration**
Energy & Atmosphere	**Fundamental Building Systems Commissioning** - Verify and ensure that fundamental building elements and systems are designed, installed and calibrated to operate as intended and buildings are energy efficient.
	Minimum Energy Performance - Establish the minimum level of energy efficiency for the building and systems. (For multiple buildings/installations, energy performance goals need to be established for the installation and then the individual building's performance can be set. Plans need to accommodate central energy systems.)
	CFC Reduction in HVAC&R Equipment - Reduce ozone depletion. (For multiple buildings/installations, CFC reduction goals need to be set for installations.)
	Optimize Energy Performance - Achieve increasing levels of energy performance above the prerequisite standard to reduce environmental impacts associated with excessive energy use.
	Renewable Energy - Encourage and recognize increasing levels of self-supply through renewable technologies to reduce environmental impacts associated with fossil fuel energy use.

(Source: AR 210-20, Appendix C, 2004)

FACTORS FOR CONSIDERATION
in developing a Sustainable RPMP

Considerations for a Sustainable Real Property Master Plan	
Categories	Areas of Consideration
Energy & Atmosphere	**Measurement & Verification** - Provide for the ongoing accountability and optimization of building energy and water consumption performance over time.
	Green Power - Encourage the development and use of grid-source, renewable energy technologies on a net zero pollution basis. (Energy/Power strategies/plans should be established at the installation level and effectively integrate existing facilities, purchased power, Green Power, and Distributed Generation.)
	Distributed Generation - Encourage the development and use of distributed generation technologies, which is less polluting than grid-source energy. (Energy/Power strategies/plans should be established at the installation level and effectively integrate existing facilities, purchased power, Green Power, and Distributed Generation.)

(Source: AR 210-20, Appendix C, 2004)

FACTORS FOR CONSIDERATION
in developing a Sustainable RPMP

Considerations for a Sustainable Real Property Master Plan	
Categories	Areas of Consideration
Materials & Resources	**Storage & Collection of Recyclables** - Facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills. (Recyclable strategies need to be determined in accordance with garrison waste management plans and ought to include in addition to recycling centers in facilities, installation-recycling centers. These strategies need to be developed in concert with local municipalities, and where there are no local programs, Army installations might take a lead to see that they are established.)
	Building Reuse - If building sitings are appropriate for a building reuse, the structures are adaptable for reuse, and reuse is cost effective, the master plan should adopt this alternative. It extends the life cycle of existing building stock, conserves resources, retains cultural resources, reduce waste, and reduce environmental impacts of a construction program.
	Construction Waste Management - Divert construction, demolition, and land clearing debris from landfill disposal. Redirect recyclable material back to the construction or manufacturing process.
	Resource Reuse - Extend the life cycle of targeted building materials through reuse, reducing environmental impacts of disposal and need for

(Source: AR 210-20, Appendix C, 2004)

FACTORS FOR CONSIDERATION
in developing a Sustainable RPMP

Considerations for a Sustainable Real Property Master Plan	
Categories	Areas of Consideration
Materials & Resources	**Recycled Content** - Increase demand for building products that have incorporated recycled content material, reducing the demand on new raw material in the construction or manufacturing process.
	Local/Regional Materials - Increase demand for building products that are manufactured locally, reducing the environmental impacts resulting from transportation.
	Rapidly Renewable Materials - Reduce the use and depletion of finite raw and long cycle renewable materials by replacing them with rapidly renewable materials.
	FSC Certified Wood - Encourage acquisition of Forest Stewardship Council (FSC) certified wood-based materials and products.
	Facility Delivery Process (Holistic Delivery of Facility) - Encourage a facility delivery process that actively engages all stakeholders in the design process to deliver a facility that meets all functional requirements while effectively optimizing tradeoffs among sustainability, first costs, life cycle costs and mission requirements.

(Source: AR 210-20, Appendix C, 2004)

FACTORS FOR CONSIDERATION *in developing a Sustainable RPMP*

Considerations for a Sustainable Real Property Master Plan	
Categories	Areas of Consideration
Current Mission	**Operation & Maintenance** - Encourage the development of a facility delivery process that enhances efficient operation and maintenance of the facility.
	Soldier & Workforce Productivity & Retention - Provide a high quality, functional, healthy and safe work environment to promote soldier and workforce productivity and retention.
Future Missions	**Functional Life of Facility & Supporting Systems** - Assess the functional life of a facility and its supporting systems to optimize the infrastructure investment.
	Adaptation, Renewal & Future Uses - Encourage facility design that is responsive to change over time to maximize accommodation of future uses without creating waste and insuring maximum useful life of products.

(Source: AR 210-20, Appendix C, 2004)

ENVIRONMENTAL REQUIREMENTS OF RPMP

- All components
  - Appropriate documentation
  - Magnitude
  - Significance
- Existing documentation
- Potential for controversy
- Use existing data

RPMP Digest

"Addresses salient points identified in real property master plan."

Real Property Master Plan Planning Process

Master Planning Steps

(1) Establish Vision

(2) Collect & Analyze Data

(3) Develop Goals & Objectives

(4) Develop/evaluate Alternatives

(5) Select Preferred Plan

(6) Implement the Plan

(7) Monitor & Amend the Plan

Output

RPMP Vision

Summary of Analysis/Limitations

Goals and Objectives

Alternative Plans

Long Range Development Plan

Future Development Site Plan

Environmental Assessment

Land Use, Circulation, Utility

Project Phasing Plan

Typical Contributing Inputs

Org Structure

Mission Analysis

Mission Requirements

Off- and On-post Data Collection

Functional & Spatial Relationships

Environmental Assessment

Land Use, Circulation, Utility

Consideration & Coordination of other installation plans/documents, i.e., INRMP, ICRMP, P2 Plan, etc. & local community plans

Output Location (Master Planning Component)

Real Property Master Plan Digest

Installation Design Guide

Long-Range Component
LR Analysis
Environmental Analysis
Land Use, Utility, Trans, Encroach
Assessments
Graphics

Short-Range Component
Time Phased Lists
Environmental Extracts
Graphics

Capital Investment Strategy
Alternatives, Action Plan, Graphics

LONG-RANGE COMPONENT

- Environmental Baseline Analysis
  - Existing conditions
  - Table 7-1, Environmental Checklist
  - Additional studies
- Formal assessment of environmental effects
- Environmental Overlay
  - Constrains Land Use, Transportation, and Future Development Plans
- Examples of Information are:
  - Natural features
  - Manmade features
  - Limiters

CAPITAL INVESTMENT STRATEGY

- Environmental Analysis
  - Analyze alternatives
  - Minimize impacts
  - Include environmental at beginning
  - Determine necessary documentation, for each project
- Policy and Procedures
  - AR 200-1, Environmental Protection and Enhancement
  - AR 200-2, Environmental Effects of Army Actions
  - AR 200-3, Natural Resources; Land, Forest and Wildlife Mgmt.
  - AR 200-4, Cultural Resources Management

SHORT-RANGE COMPONENT

- Project and site-specific
- Finish required NEPA documentation for POM projects
- Enhanced Environmental Overlay
  - Site-specific environmental graphics
  - Each Construction and Major M&R project

COORDINATION

- Absolute requirement
- Environmental Office, other staff elements
- Coordinate right from the start
- Ensure requirements for environmental documentation are identified

POLICY AND GUIDANCE

- AR 5-3, Installation Management and Organization (Pending)
- AR 200-1, Environmental Protection and Enhancement
- AR 200-2, Environmental Effects of Army Actions
- AR 200-3, Natural Resources, Land, Forest and Wildlife Management
- AR 200-4, Cultural Resources Management
- Chapter 4, Master Planning Instructions
- Commanders Guide to Environmental

SUMMARY

- Army goal is Environmental Stewardship: **LEADERSHIP**
- Not only a goal, but it is the **Law!**
- NEPA is the “umbrella” process = public involvement
- Environmental analysis & assessment – 1st always
- More detail as action nears realization
- Planners are “reconnaissance environmentalists”
- ISR and Installation EIS are good starts

GET EXPERT HELP!